

Claims

1 Apparatus for the reception of data transmitted to the apparatus over any of a range of radio frequency signals within a known frequency band or bands, said radio frequency signal selectable by the apparatus in response to a user selection of a television or radio channel to be generated by the apparatus from the received data, said apparatus including a tuner to tune to the selected radio frequency signal and characterised in that the bit error rate output of the data carried by the selected radio frequency signal is monitored and, if the said bit error rate exceeds, during reception, a predefined bit error rate limit, a control means introduces an offset frequency value for the selected radio frequency signal and the apparatus is then operated to tune to a frequency equivalent to the selected radio frequency signal plus or minus said offset frequency value.

2 Apparatus according to claim 1 characterised in that upon retuning to the frequency including the offset frequency value, the bit error rate is monitored and if the bit error rate value is within the predefined bit error rate limit the tuner continues to tune to the frequency value including the offset frequency value.

3 Apparatus according to claim 1 characterised in that the predefined bit error rate limit is $2e-04$.

4 Apparatus according to claim 1 characterised in that the tuner is controlled to tune to radio frequencies within the DVB IF band for satellite tuners.

5 Apparatus according to claim 1 characterised in that the bit error rate of the selected radio frequency signal is caused to exceed the predefined bit error rate limit by interference caused by any or any

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combination of GSM or DECT devices, WLAN devices and/or devices which operate in the surrounding environment at a relatively close radio frequency to the selected radio frequency.

6 Apparatus according to claim 1 characterised in that the apparatus includes at least one LNB.

7 Apparatus according to claim 6 characterised in that upon receiving a selected radio frequency signal and the bit error rate exceeding the predefined bit error rate limit, the LNB is controlled to move from receiving a selected radio frequency signal within a low band frequency range to receiving a frequency located in a high band frequency range or vice versa.

8 Apparatus according to claim 6 characterised in that the LNB is multiband or programmable and upon the bit error rate of a selected frequency signal exceeding the predefined bit error rate limit, the LNB is controlled to receive a frequency equivalent to the selected radio frequency signal plus or minus a fixed offset frequency value.

9 Apparatus according to claim 6 characterised in that upon the bit error rate of a selected frequency signal exceeding the predefined bit error rate limit, another LNB frequency range band is used whilst maintaining the requirement of using an Intermediate frequency band between 950MHz to 2150MHz.

10 Apparatus according to claim 1 characterised in that the offset frequency value is initially set at a first value and added or subtracted from the original frequency and the apparatus re-tuned to the new frequency.

11 Apparatus according to claim 10 characterised in that if the bit error rate still exceeds the predefined level then successive increases

in the offset value are made, the apparatus re-tuned and the bit error rate re-checked at each increase and this is continued until the bit error rate is at or below the predefined bit error rate limit.

12 Apparatus according to claim 1 characterised in that the apparatus includes a broadcast data receiver provided to receive the data on the selected radio frequency signal, decode the same and use the data to generate video and /or audio for the selected television or radio channel to which the selected radio frequency is related.

13 Apparatus for the reception of data, said data transmitted to the apparatus at a range of radio frequency signals within a known frequency band or bands, said radio frequency signals selectable by the apparatus in response to a user selecting, said apparatus including a tuner to tune to the selected signal and wherein the bit error rate output is monitored and, if the said bit error rate exceeds, during operation, a predefined limit, the apparatus introduces an offset to the required frequency and tunes to the wanted frequency plus or minus said offset.

14 A method for the control of apparatus to tune to a selected radio frequency signal in a range of receivable radio frequency signals to receive data carried by the said signal, said method comprising the steps of;

selecting the radio frequency signal to be received as that which carries data required for the generation of a user selected radio or television channel;

controlling the apparatus to tune to said selected radio frequency signal;

when tuned and the selected frequency signal is received, monitoring the bit error rate output of the data received from the selected radio frequency and characterised in that;

if the said bit error rate output is the same or less than a predefined bit error rate limit the apparatus continues to receive the selected radio frequency signal; and

if the said bit error rate output is greater than a predefined bit error rate limit, control means for the apparatus introduces an offset frequency value to the selected radio frequency signal and the apparatus is then operated to tune to a radio frequency equivalent to the selected radio frequency signal plus or minus said offset frequency value.

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~~14~~ A method according to claim 13 characterised in that upon retuning to the frequency including the offset frequency value, the bit error rate is monitored and if the bit error rate value is within the predefined bit error rate limit the tuner continues to tune to the frequency value including the offset frequency value.

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~~15~~ A method according to claim 14 characterised in that if the bit error rate still exceeds the predefined bit error rate limit then successive increases in the offset value are made, the apparatus re-tuned and the bit error rate re-checked at each increase and this is continued until the bit error rate is at or less than the predefined bit error rate value.

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~~16~~ A method according to claim 13 characterised in that the predefined bit error rate limit is $2e-04$.

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~~17~~ A method according to claim 13 characterised in that upon receiving a selected radio frequency signal and the bit error rate exceeding the predefined bit error rate limit, an LNB provided as apart of the signal receiving apparatus is controlled to move from receiving a selected radio frequency signal within a low band frequency range to receiving a frequency located in a high band frequency range or vice versa.

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~~18~~ A method according to claim 17 characterised in that the LNB is multiband or programmable and upon the bit error rate of a selected frequency signal exceeding the predefined bit error rate limit, the LNB is controlled to receive a frequency equivalent to the selected radio frequency signal plus or minus a fixed offset frequency value.